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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,793	02/18/2004	Soo-Jin Lee	61610125US	9634

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EXAMINER	
DHARIA, PRABODH M	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/779,793	LEE, SOO-JIN	
	Examiner	Art Unit	
	Prabodh M. Dharia	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4-6* is/are allowed.

6)☒ Claim(s) *1-3 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. **Status:** Please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted on 12-29-2006 under request for reconsideration, which have been placed of record in the file. Claims 1-10 are pending in this action.

Response to Amendment

2. Applicant has labeled drawings 1A and 1B as prior art per objection therefore objection to drawing is withdrawn. Applicant has specification amended to correct certain informalities. Accordingly, claims 1-10 are currently pending in the application, of which claims 1, 4, and 7 are independent claims. The above amendments do not add new matter to the application and are fully supported by the specification. Support for the amendments may be found at least at paragraphs [0026], [0028], [0030], and [0036] of the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Awamato et al. (U.S. Patent Application Publication No. 2002/0190925).

Regarding Claim 1, Awamoto et al. teaches an image data correction (page 1, paragraph 9) method for a plasma display panel (page 1, paragraph 2,3, page 2, paragraph 26), which includes a plurality of address electrodes (page 2, paragraph 27, Lines 7-9), and a plurality of scan (Y electrodes are scan electrodes) and sustain electrodes (X electrodes are write and sustain electrodes) arranged alternately and in pairs (page 2, paragraph 27, Lines 1-7), the image data correction method (page 1, paragraph 9) comprising: (a) calculating a load factor of video signals (page 2, paragraph 28, right side column Lines 19-21); (b) determining an automatic power control level corresponding to the load factor (page 2, paragraph 28, right side column Lines 24,25);, and generating sustain pulse information (color data with gradation) and the number of subfields (page 2, paragraph 28, right side column Lines 1-4, page 2, paragraph 27, Lines 1-7);; and (c) selecting a correction table from a memory according to the number of subfields (page 2, paragraph 30, Lines 1-12 teaches each sub-frames assigned different gradation values to achieve smooth gradation image, Lines 12-21 teaches the selector (see figure 2, item # 813) selects the data per number of sub-frame converted by conversion portion (Item #83, see figure2)) and the automatic power control level (page 2, paragraph 28, right side column Lines, 15-18, Lines 24,25 teaches automatic power control level is determined by controller 71 of figure 1 on the basis of load factor computed using gradation data stored in the memory for different sub-field), and correcting image data (page 2, paragraphs 28-31, page 3, paragraphs 31,32 teaches the smooth gradation display (corrected image data) achieving by selected table memory to provide specific sub-field with predetermined gradation data having automatic power control level for generating specific luminance value).

Regarding Claim 2, Awamoto et al. teaches the step (c) comprises outputting correction data from two correction tables constituting an interval including the automatic power control level of input image data by linear interpolation (page 2, paragraphs 28-31, page 3, paragraphs 31,32 interpolates data by using gradient data detection circuitry between noted pixel and neighboring pixel to achieve smooth gradation display).

Regarding Claim 3, Awamoto et al. teaches the correction data is based on stored experimental data (pages 2,3, paragraph 31 and 32, and also see the claim 1 on page 4the data from memory selected are the data to produce a smooth contour image, i.e. the gradation data stored by experience observation will produce luminance gradient that will corresponds to smooth gradation image).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Awamato et al. (U.S. Patent Application Publication No. 2002/0190925) as applied to claims 1-3 above, and further in view of Kwon et al. (US 2003/0058476 A1).

Regarding Claim 7, Awamoto et al. teaches a plasma display panel device (page 2, paragraph 26) comprising: a plasma display panel (page 2, paragraph 26) including a plurality of address electrodes (page 2, paragraph 27, Line 7-9), and a plurality of scan and sustain electrodes arranged alternately and in pairs (page 2, paragraph 27, Lines 1-7); a controller for calculating a load factor of externally input video signals (page 2, paragraph 28, right side column Lines 19-25, item # 71,65,67,69, see figure 1), generating sustain pulse information (page 2, paragraphs 26, 27 and 28, right side column Lines 13-25, it is inheritant to PDP (or plasma display panel) to sustain pulse information) and a number of subfields corresponding to the load factor page 2, paragraph 28, right side column Lines 19-25, Lines 1-10), and selecting a correction table corresponding to the number of subfields to output corrected video signals data (page 2, paragraph 30); an address data generator which generates address data corresponding to the corrected data output from the controller (page 2, paragraph 28, right side column Lines 15-17), and applying the generated address data to the address electrodes of the plasma display panel (page 2, paragraph 28, right side column Lines 15-17, paragraph 27).

However, Awamoto et al. fails to recite or disclose a sustain/scan pulse generator which generates sustain/scan pulses corresponding to the sustain pulse information output from the controller and applying the generated sustain/scan pulses to the sustain/scan electrodes.

However, Kwon et al. teaches a PDP with sustain/scan pulse generator which generates sustain/scan pulses corresponding to the sustain pulse information output from the controller and applying the generated sustain/scan pulses to the sustain/scan (page 2, paragraph 19, teaches per prior art conventional PDP the sustain and scan pulses are determined per number of sub-field

and Awamoto et al. does teach the subfield are determined by load factor as explained above in claim1, page 3, paragraph 49 teaches sustain /scan pulses which are well known in the art).

The reason to combine is to Kwon et al. teaching of using a variable sub-field factor to generate sustain /scan pulses to reduce flickering and a pseudo-outline during the displaying of gray scale of a moving picture which Awamoto et al. fails to disclose.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Kwon et al. in to the teaching of Awamoto et al. to be able to have a variable sub-field factor to generate sustain /scan pulses to reduce flickering and a pseudo-outline during the displaying of gray scale of a moving picture (page 1, paragraph 2).

Regarding Claim 8, Awamoto et al. teaches the controller (see figure 1, item # 71, page 2, paragraph 28, Lines 19-25 right side column) comprises: an average signal level calculator for calculating an average signal level (average signal level provides a gradation value signal such as Di see paragraph 28 right side column Lines 21-25 to compute a load factor) of externally input video signals (Df see figure 1, item # 75,71) to output a load factor an automatic power controller generating sustain pulse information (Df see figure 1, item # 75,71, page 2, paragraph 28, right column Lines 19-25) and the number of subfields corresponding to the load factor (page 2, paragraph 218, right column Lines 1-25); a subfield generator for generating subfield data corresponding to each image data for each of the number of subfields output from the automatic power controller(page 2, paragraph 218, right column Lines 1-25); and an image data corrector for receiving the number of subfields fed back from the automatic power controller, correcting

image data with reference to a correction table corresponding to the number of subfields, and outputting the corrected image data to the automatic power controller (page 2, paragraphs 2, 28-31, page 3, paragraphs 31,32).

Kwon et al. teaches an average signal level calculator for calculating an average signal level of externally input video signals (page 1, paragraph 6, page 3, paragraphs 44 see figure 1 and 5).

Regarding Claim 9, Awamoto et al. teaches the image data corrector comprises: a memory for storing correction data for gray scale data of the video signals based on subfields; and a table selector for selecting a correction table to output correction data for the input image data with reference to the correction table (page 2, paragraphs 2, 28-30).

Regarding Claim 10, Awamoto et al. teaches the image data corrector (page 1, paragraph 9) comprises: a memory for storing a defined number of correction tables storing correction data for gray scale data of an automatic power control level (page 2, paragraphs 28,-30), wherein a defined number of automatic power control levels are present for each subfield (page 2, paragraphs 28-30, the APC is controlled by load factor which is computed after the gradation data is supplied from memory with subfield) ; a table selector which selects a group of correction tables corresponding to the input image data according to the number of subfields (page 2, paragraph 30); an automatic power control interval discriminator which determines an interval corresponding to the automatic power control level from the selected group of correction tables (page 2, paragraphs 28-30), and-selecting two correction tables including the corresponding

interval (page 2, paragraph 30, Lines 1,2); and a linear interpolator which calculates correction data for the corresponding image gray scale data included in the interval by a linear interpolation operation (page 2, paragraph 28, right side column), from the two correction tables forming one interval determined by the automatic power control interval discriminator (page 2, paragraphs 28-30, the APC is controlled by load factor which is computed after the gradation data is supplied from memory tables with subfield).

Allowable Subject Matter

7. Claims 4-6 allowed.

8. The following is an examiner's statement of reasons for allowance:

Applicant's argument filed on 12-29-2006, are convincing. As argued by applicant in remarks under claim rejection page 10, last paragraph, page 11 paragraphs 1-3, page 12, paragraphs 1; the prior art of Awamato et al. (U.S. Patent Application Publication No. 2002/0190925) and Kwon et al. (US 2003/0058476 A1) fails to recite or disclose the uniquely distinct features represented by underlined bold claims limitations below;

an automatic power controller, generating the number of subfields corresponding to the load factor; a subfield generator for generating subfield data corresponding to each image data for each of the number of subfields output from the automatic power controller; and an image data corrector for receiving the number of subfields fed back from the automatic power controller, correcting image data with reference to a correction table corresponding to the number of subfields, and outputting the corrected image data to the automatic power controller.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments, see remark, filed 12-29-2006, with respect to the rejection(s) of claim(s) 7 regarding "a sustain/scan pulse generator which generates sustain/scan pulses corresponding to the sustain pulse information output from the controller and applying the generated sustain/scan pulses to the sustain/scan electrodes and an average signal level calculator for calculating an average signal level of externally input video signals" under Awamato et al. (U.S. Patent Application Publication No. 2002/0190925) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kwon et al. (US 2003/0058476 A1).

Applicant argues as per claims 1 and 7 the prior art of Awamato et al. (U.S. Patent Application Publication No. 2002/0190925) fails to disclose an automatic power controller generating "(c) selecting a correction table from a memory according to the number of subfields and the automatic power control level, and correcting image data".

Examiner disagrees as explained further in detail in claim1, Awamato et al. (U.S. Patent Application Publication No. 2002/0190925) does teach (c) selecting a correction table from a memory according to the number of subfields (page 2, paragraph 30, Lines 1-12 teaches each sub-frames assigned different gradation values to achieve smooth gradation image, Lines 12-21

teaches the selector (see figure 2, item # 813) selects the data per number of sub-frame converted by conversion portion (Item #83, see figure2)) and the automatic power control level (page 2, paragraph 28, right side column Lines, 15-18, Lines 24,25 teaches automatic power control level is determined by controller 71 of figure 1 on the basis of load factor computed using gradation data stored in the memory for different sub-field), and correcting image data (page 2, paragraphs 28-31, page 3, paragraphs 31,32 teaches the smooth gradation display (corrected image data) achieving by selected table memory to provide specific sub-field with predetermined gradation data having automatic power control level for generating specific luminance value) and in claim 7, PDP inheritantly sustain image data to be discharged to display the image; Awamoto et al. teaches PDP display.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tanaka; Akira (US 6340961 B1) Method and apparatus for displaying moving images while correcting false moving image contours.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

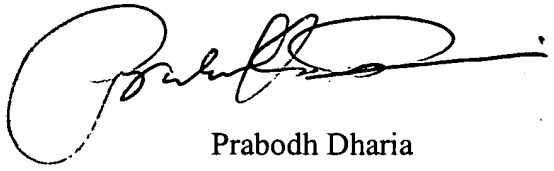
12. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231



Prabodh Dharia

Partial Signatory Authority

AU 2629

February 15, 2007